

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application: **(AS ON AMENDED SHEET(S) ANNEXED TO IPER)**

Claims 1-26. (Cancelled)

27. (New) A method of at least partially securing communications, via a Host Identity Protocol, HIP, proxy, between a first host which is not HIP enabled and a second host which is HIP enabled, the method comprising:

sending a query from the first host to resolve the Internet Protocol, IP, address of the second host;

in response to said query, retrieving an IP address and Host Identity Tag, HIT, associated with the second host;

in response to said retrieval, returning from the proxy a substitute IP address associated with the second host;

maintaining at the proxy a mapping between the substitute IP address, the retrieved IP address and the retrieved HIT; and

upon receipt of a session initiation message at the proxy from the first host including as its destination address the substitute IP address, using the mapping to negotiate a HIP connection between the proxy and the second host.

28. (New) A method as claimed in claim 27, comprising looking up the retrieved IP address and the retrieved HIT from the mapping based on the substitute IP address in

the session initiation message, and performing the HIP negotiation using the retrieved IP address and the retrieved HIT to locate and identify the Responder in the HIP negotiation together with an IP address and HIT of the proxy to locate and identify the Initiator in the HIP negotiation.

29. (New) A method as claimed in claim 27, wherein the retrieved IP address is the IP address of a Forwarding Agent used by the second host, and further comprising initiating the HIP negotiation between the proxy and the second host by sending the initial HIP negotiation packet to the Forwarding Agent.

30. (New) A method as claimed in claim 29, further comprising, following receipt of the actual IP address of the second host at the proxy during the HIP negotiation, including the actual IP address in the mapping maintained at the proxy.

31. (New) A method as claimed in claim 30, wherein the retrieved IP address is replaced in the mapping by the actual IP address following its receipt at the proxy.

32. (New) A method as claimed in claim 27, wherein the retrieved IP address is the actual IP address of the second host.

33. (New) A method as claimed in claim 27, comprising generating the substitute IP address at the proxy.

34. (New) A method as claimed in claim 27, further comprising, for an outgoing message received at the proxy after the HIP connection has been established including as its destination address the substitute IP address, using the mapping to route the message over the HIP connection to the second host.

35. (New) A method as claimed in claim 34, wherein the retrieved IP address is the IP address of a Forwarding Agent used by the second host, and further comprising: initiating the HIP negotiation between the proxy and the second host by sending the initial HIP negotiation packet to the Forwarding Agent; following receipt of the actual IP address of the second host at the proxy during the HIP negotiation, including the actual IP address in the mapping maintained at the proxy; looking up the actual IP address and the retrieved HIT from the mapping based on the substitute IP address in the outgoing message; routing the outgoing message to the second host using the actual IP address and the retrieved HIT to locate and identify the destination of the message; and using an IP address and HIT of the proxy to locate and identify the source of the message.

36. (New) A method as claimed in claim 27, further comprising completing the establishment of communications between the first and second hosts by forwarding the session initiation message from the proxy to the second host over the HIP connection, replying with a session acknowledgment message from the second host to the proxy over the HIP connection, and routing the session acknowledgment message to the first host.

37. (New) A method as claimed in claim 36, wherein the session acknowledgment message is a TCP ACK message.

38. (New) A method as claimed in claim 27, wherein the session initiation message is a TCP SYN message.

39. (New) A method as claimed claim 27, further comprising, for an incoming message received at the proxy from the second host over the established HIP connection, using a NAT function of the proxy to route the message to the appropriate destination host.

40. (New) A method as claimed in claim 27, wherein the query is a DNS query.

41. (New) A method as claimed in claim 27, wherein the proxy performs the step of retrieving the IP address and HIT associated with the second host.

42. (New) A method as claimed in claim 41, wherein the proxy retrieves the IP address and HIT associated with the second host from an external DNS server.

43. (New) A method as claimed in claim 41, wherein the proxy retrieves the IP address and HIT associated with the second host from an internal DNS server.

44. (New) A method as claimed in claim 27, wherein the proxy intercepts the query from the first host.

45. (New) A communications system comprising a first host which is not Host Identity Protocol, HIP, enabled, a second host which is HIP enabled, and a HIP proxy, wherein: the first host comprises means for sending a query to resolve the Internet Protocol, IP, address of the second host;

the proxy comprises means for retrieving, in response to said query, an IP address and Host Identity Tag, HIT, associated with the second host, for returning, in response to said retrieval, a substitute IP address associated with the second host, for maintaining a mapping between the substitute IP address, the retrieved IP address and the retrieved HIT, and for using the mapping, upon receipt of a session initiation message from the first host including as its destination address the substitute IP address, to negotiate a HIP connection between the proxy and the second host.

46. (New) A method for use by a Host Identity Protocol, HIP, proxy of at least partially securing communications, via the proxy, between a first host which is not HIP enabled and a second host which is HIP enabled, the method comprising:

receiving a query from the first host to resolve the Internet Protocol, IP, address of the second host;

in response to said query, retrieving an IP address and Host Identity Tag, HIT, associated with the second host;

in response to said retrieval, returning a substitute IP address associated with the second host, and maintaining a mapping between the substitute IP address, the retrieved IP address and the retrieved HIT; and

upon receipt of a session initiation message from the first host including as its

destination address the substitute IP address, using the mapping to negotiate a HIP connection between the proxy and the second host.

47. (New) A Host Identity Protocol, HIP, proxy for use in at least partially securing communications, via the proxy, between a first host which is not HIP enabled and a second host which is HIP enabled, comprising:

means for receiving a query from the first host to resolve the Internet Protocol, IP, address of the second host;

means for retrieving, in response to said query, an IP address and Host Identity Tag, HIT, associated with the second host, for returning, in response to said retrieval, a substitute IP address associated with the second host, and maintaining a mapping

between the substitute IP address, the retrieved IP address and the retrieved HIT; and

means for using the mapping, upon receipt of a session initiation message from the first host including as its destination address the substitute IP address, to negotiate a HIP connection between the proxy and the second host.

48. (New) A computer program which, when run on a HIP proxy, causes the proxy to carry out a method as claimed in claim 46.

49. (New) A computer program which, when loaded into a HIP proxy, causes the proxy to become one as claimed in claim 47.

50. (New) A computer program as claimed in claim 48, carried on a carrier medium.

51. (New) A computer program as claimed in claim 50, wherein the carrier medium is a transmission medium.

52. (New) A computer program as claimed in claim 50, wherein the carrier medium is a storage medium.

53. (New) A computer program as claimed in claim 49, carried on a carrier medium.

54. (New) A computer program as claimed in claim 53, wherein the carrier medium is a transmission medium.

55. (New) A computer program as claimed in claim 53, wherein the carrier medium is a storage medium.